

Patent Claims

1. A therapeutic agent having a destructive effect on malignant tumors which is comprises as effective substances of alpha-ketoglutaric acid or its pharmaceutically effective salts
5 and at least one compound promoting azomethine solution in an enzyme independent reaction and selected from the group of 5-hydroxymethylfurfural, dehydroascorbic acid, malt and vanillin, whereby preferably the mass ratio of the ketoglutaric acid to the
10 at least azomethine formation promoting compound is greater than 1:1, especially 2:1 to 12:1, characterized in that the therapeutic agent contains as further effective substances N-acetyl-seleno-L-methionine and N-acetyl-L-methionine whereby the latter is present in excess with respect to the former.

2. The therapeutic agent according to claim 1
15 characterized in that the mass ratio of alpha-ketoglutaric acid to N-acetyl-seleno-L-methionine is 100:1 to 20000:1, preferably 500:1 to 10000:1.

3. The therapeutic agent according to claim 1 or claim 2
20 characterized in that the mass ratio of N-acetyl-seleno-L-methionine is 20:1 to 300:1, preferably 50:1 to 100:1.

4. The therapeutic agent according to one of the claims 1 to 3 characterized in that it additionally contains glucose, fructose or a mixture thereof.

5. The therapeutic agent according to one of the claims 1 to 4 characterized in that the compound promoting azomethionine formation is 5-hydroxymethylfurfural.

5 6. The therapeutic agent according to one of the claims 1 to 5, characterized in that it is put up in an aqueous solution and the N-acetyl-seleno-L-methionine is present in an amount of 1.4 to 2.3 mg/l and the N-acetyl-L-methionine is present in an amount of 70 to 230 mg/l.

10 7. The therapeutic agent according to one of claims 1 to 6 characterized in that it contains an electrolyte from the group of sodium or potassium.

8. The therapeutic agent according to one of the claims 1 to 7 characterized in that it is administered intravenously and has a pH value of 4 to 6.

15 9. The therapeutic agent according to claims 4, 5, 6, 7 and 8 characterized in that the alpha-ketoglutaric acid is present in a concentration of 3 to 20 g/l, 5-hydroxymethylfurfural is present in a concentration of 1 to 3 g/l, the glucose is present in a concentration of 20 to 100 g/l, the sodium ion is present in a
20 concentration of 60 to 160 mmol/l and the potassium ion is present in a concentration of 15 to 40 mmol/l.

10. The therapeutic agent according to claim 9
characterized in that the alpha-ketoglutaric acid is present in a
concentration of 6 to 16 g/l, 5-hydroxymethylfurfural is present in
a concentration of 1 to 2.5 g/l, the glucose in a concentration of
20 to 50 g/l, the sodium ion in a concentration of 70 to 160 mmol/l
and the potassium ion is present in a concentration of 20 to 40
mmol/l.

11. The therapeutic agent according to one of claims 1
to 5 or 7 which is put up in a solid or liquid or oral or rectal
administration dosage form which contains the ketoglutaric acid at
least in part in the form of a monosodium or monopotassium salt
thereof.

12. The therapeutic agent according to claim 11 which
contains a lubricating agent and/or extender and/or a taste
improving disaccharide, especially sifted sugar.

13. The therapeutic agent according to claim 11 or 12
which contains in the dosage unit 3 to 9 g of alpha-ketoglutaric
acid, 0.5 to 1.5 g 5-hydroxymethyl-furfural, 1.4 to 2.3 mg N-
acetyl-seleno-L-methionine and 70 to 230 mg of N-acetyl-L-
methionine.

14. A method of making a therapeutic agent in a form suitable for intravenous administration according to one of claims 8 to 10 characterized in that the alpha-ketoglutaric acid is dissolved at elevated temperature in distilled water which has had its oxygen content reduced by a gasification and glucose or fructose added to it together with alkalies other than ammonia or amines, the pH being adjusted to be somewhat above 4 and N-acetyl-seleno-L-methionine, N-acetyl-L-methionine and the compound promoting azomethine formation.

15. A method of making a preparation suitable for oral or rectal administration according to one of claims 11 to 13 characterized in that to adjust the pH from 3 to 6 the ketoglutaric acid is partly to entirely used in the form of its monosalt with sodium and/or potassium and in which extenders and if desired also disaccharides are mixed therewith and to this mixture the compound promoting azomethine formation, the N-acetyl-seleno-L-methionine and the N-acetyl-L-methionine are added whereupon the mixture is put up in the desired form of administering especially as a particule granulate, in tablets, or in an irrigating liquid.

16. The therapeutic agent according to one of claims 1 to 13.

17. The use of the material defined in claims 1 to 11 to produce a medicament against malignant tumors.